ProActive DBA™

SQL Query Analyzer™

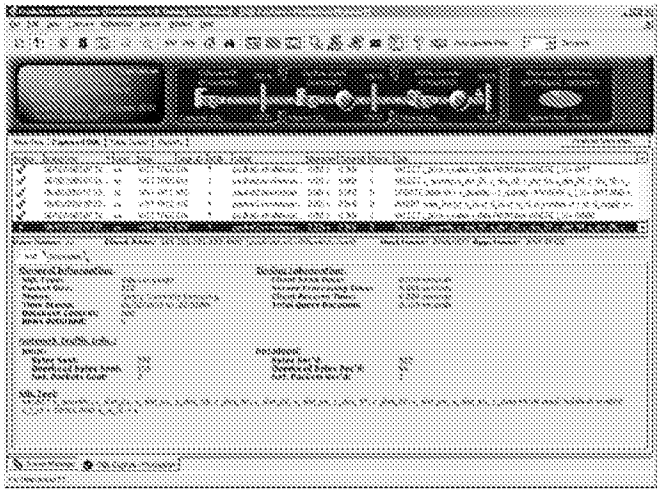
Performance & Tuning

Introduction

ProActive DBA SQL Query Analyzer from White Sands Technology, Inc. provides best-of-breed zero-impact SQL monitoring for Sybase ASE database servers. It lets you:

- Capture all or selected SQL sent to the database server with zero impact on performance
- Monitor real-time database activity non-intrusively
- Proactively identify degrading response times and their causes, to anticipate problems before they occur
- Identify SQL in need of tuning efforts
- Track end-user response times / transaction counts
- Show SQL causing table scans, with recommendations on indexes to create
- Track table/column usage by user, application, etc.
- Identify unused tables/columns

All this and more is available through an easy-to-use yet powerful graphical user interface.



Capture and view client SQL in real-time, with zero impact to the production server!

Why Use a Network-Based Monitor?

Most database performance monitors show overall system performance metrics (CPU usage, disk I/O rates, etc.)

While these metrics can be useful for some purposes, they do not give any indication of the performance level experienced by end-users. For example, your database server's CPU usage may be low, yet you have 100 blocked users who think the server is running very slowly!

Plus, global monitors can only sample the running SQL queries every so often, so by design they will miss a large percentage of executed SQL.

SQL Query Analyzer captures performance metrics down to the individual SQL statement, on every SQL statement. And, it gives high-level metrics that correspond directly to the end-user's experience of database performance.

When you use it with ProActive DBA Diagnostic Monitor and Visual Space Manager, you get the most comprehensive performance-tuning solution available for Sybase ASE!

Non-Intrusive 24x7 Monitoring

SQL Query Analyzer works by "sniffing" network SQL conversations between clients and the Sybase ASE database server, gathering a wide variety of metrics on the SQL executed by clients.

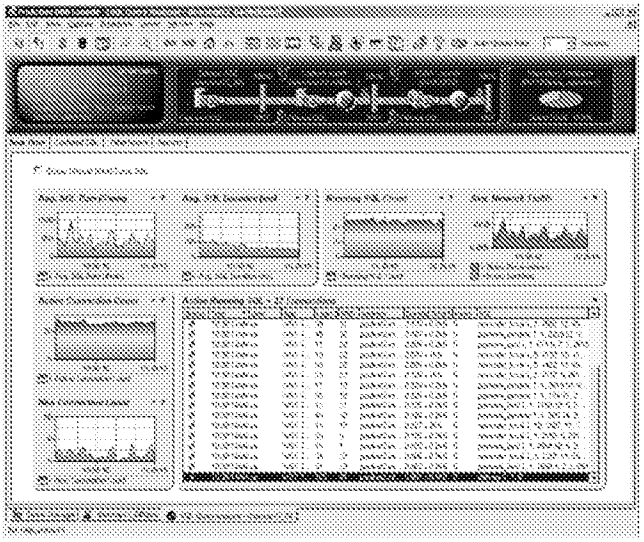
It can capture transactions round-the-clock for full-time monitoring or auditing of SQL activity.

Capturing can occur on the monitored server for convenience, or on a separate machine for true zero-impact capturing of database activity.

You can log all or selected SQL detail to a repository database of your choice. Canned or custom reports may also be generated on-the-fly and saved to the repository for later viewing and analysis.

Real-Time Monitoring

SQL Query Analyzer shows you real-time database activity levels, with no impact to the production server.



Real-time view shows up-to-the-minute server activity!

ProActive DBA™ SQL Query Analyzer™

SQL Query Analyzer's real-time performance metrics include:

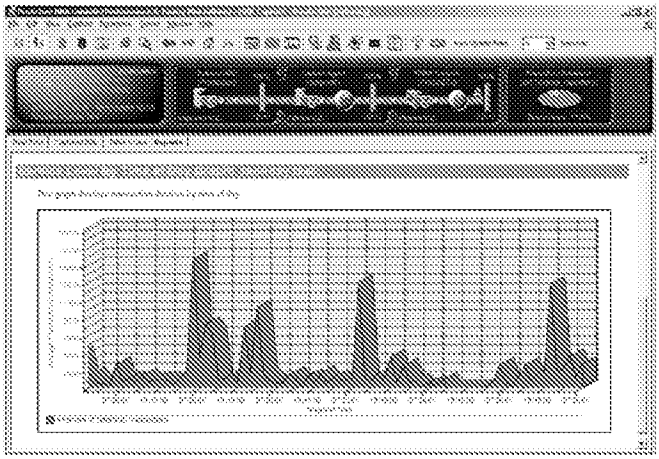
- Currently-active SQL queries
- Average SQL transactions per minute
- Average duration of SQL transactions
- Network activity levels
- Number of logged-in and active users

Graphs with zoom/pan features let you view recent historical performance metrics. Click on any active SQL query to view detailed performance data, showplan information, etc.

When you use SQL Query Analyzer in conjunction with ProActive DBA Diagnostic Monitor, you get the best of both worlds—SQL statement-level monitoring, as well as global high-level server and operating system monitoring, all within a single integrated framework!

Manage Performance Metrics

Powerful reporting and filtering lets you report on SQL queries by user, application, query type or other factors, for analyzing end-user service levels, transaction rates and other metrics. Produce graphical reports for management of different categories of database usage.



Track end-user response times and transaction rates historically.

Application Tuning

Diagnose application performance problems by examining SQL queries sent to the server. Identify redundant SQL, poor-performing SQL and SQL that can be turned into stored procedures.

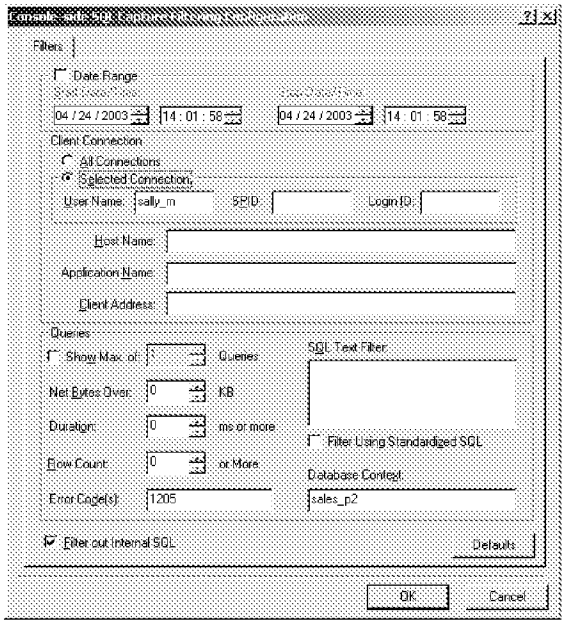
Find SQL that returned a specific error, for application debugging. Especially useful when a server error (e.g. out of resources, data corruption) occurs at an unexpected time.

Customized Reporting

SQL Query Analyzer provides a wide variety of customizable reports, including:

- Longest-running SQL
- Most frequently-executed types of queries
- End-user service level histograms
- Transactions and connections graphed by time-of-day
- Top network usage SQL
- Most frequently-executed stored procedures
- Table/column usage by end-user, application, etc.
- And much more!

You can create unlimited custom versions of any report, based on all or selected SQL queries. All reports have the same flexible set of filtering options, which may include wildcards and include/exclude filters.



Flexible filtering options let you create customized reports and views.

Reports may be generated dynamically "on-the-fly," and you can also specify predefined reports which are processed and saved to the repository as SQL queries are captured.

Advanced Sorting and Filtering

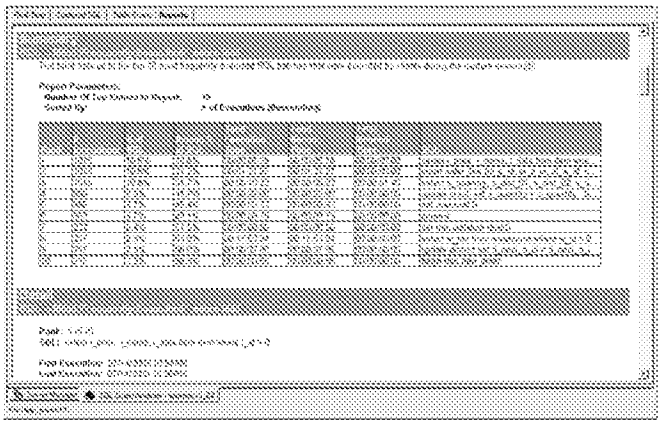
SQL detail and reports can be filtered by a wide range of criteria, including SQL text, user name, application name, client IP/hostname, execution time, network usage, rows returned, database context, error code returned and other performance criteria.

Data Warehouses (DSS / OLAP)

SQL Query Analyzer benefits data warehouse users by identifying the longest-running SQL and analyzing the query plans for table scan activity.

OLTP / e-Business

SQL Query Analyzer benefits transaction-processing environments by tracking transaction volume versus response time. Ensure end-user service-level agreements are being met, and monitor growth of transaction quantities over time.



View most frequently-executed SQL statements.

Identify Frequently-Executed SQL

SQL Query Analyzer includes reports that identify the most frequently-executed SQL patterns and stored procedures, to direct performance tuning efforts where they will have the biggest return-on-investment.

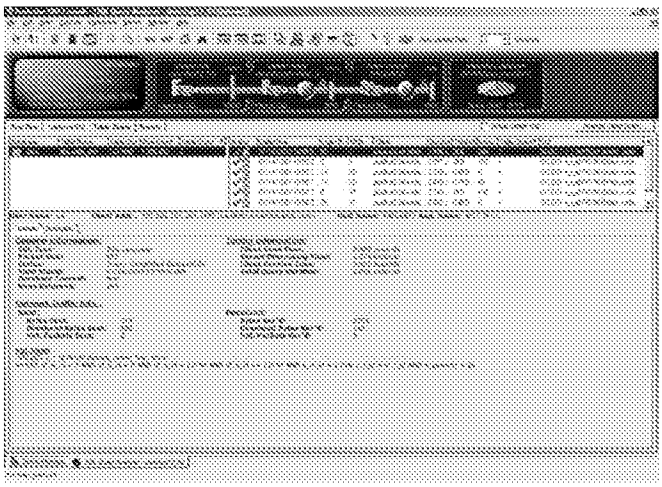
The frequently-executed SQL report is great for finding small queries that get executed many times (often unnecessarily). Such queries can have a big impact on performance, but are often overlooked as performance-tuning targets.

The Top N SQL By Execution Time report shows you which SQL patterns or stored procedures account for the most combined end-user response time—a great way to identify queries most in need of performance-tuning.

These reports all group similar SQL or stored procedure invocations together, so you see all executions of the same type of SQL statement (regardless of whitespace, different WHERE-clause parameters, etc.)

Table Scan Analysis

Our automated table scan analyzer shows you which tables were table-scanned the most and which queries failed to use an index. And, it recommends which indexes should be used and which columns to create indexes on, for optimal query performance!



Quickly and easily see which tables were table-scanned, so you can focus tuning efforts on the queries that need it most!

Table and Column Usage Analysis

Knowing which columns (and the column order) to create indexes on makes all the difference in the world to performance. SQL Query Analyzer shows you the best candidate columns for indexing by analyzing the WHERE, ORDER BY and other syntax of SQL executed on your server.

You can also produce reports on the number of times a specific table, column or join combination was accessed by query type (SELECT, UPDATE, etc.), by user, application or other criteria.

It will also show you which tables and columns were never used—useful for identifying legacy data that can be archived off-line, redundant tables, etc.

Server Auditing

SQL Query Analyzer can save all or selected SQL detail information to the repository, so you can see who executed a particular SQL statement, and when.

Searching and filtering capabilities lets you locate SQL by query type, object name, database user, etc.

ProActive DBA™ SQL Query Analyzer™

Performance & Tuning

Application Engineering

Discover what SQL queries are being executed by legacy or third-party applications for which you may not have the source code.

As a development tool, SQL Query Analyzer is invaluable for seeing how high-level programming environments such as PowerBuilder and WebObjects actually use the database.

Available Reports

- Longest-running SQL
- Most frequently-executed SQL patterns
- Top N SQL patterns, grouped by execution time
- Top N stored procedures executed
- End-user service level by time-of-day
- End-user service level histogram
- SQL transactions by time-of-day
- Database connections by time-of-day
- Top network usage SQL
- Most frequently accessed tables, columns, joins by database user, application, etc.
- Tables and columns not accessed

Note: All reports may be customized and assigned different SQL filters.

All reports can be generated dynamically as "ad-hoc" reports; most reports can be generated automatically during capturing and saved to the repository.

Purchase Justifications

- Identify End-User Performance Problems
- Monitor End-to-End Response Times
- Verify Compliance With End-User Service Level Agreements
- Tune SQL For Optimal Performance
- Audit Database Server Activity
- Discover SQL Executed By Third-Party Apps
- Identify Data Usage By User, Application

Major Product Features

- Network-Based SQL Capture
- Zero-Impact Monitoring
- Scheduled, Unattended Capturing
- Full Suite of Filtering Options With Wildcards and Pattern-Matching
- Create Unlimited Ad-Hoc or "Canned" Reports
- View Showplan and I/O Statistics
- Table Scan and Index Analysis
- Table and Column Usage Reports
- Integration With Other ProActive DBA Products (Diagnostic Monitor, Visual Space Manager, Disaster Recovery Toolset) in a Single Framework

Specifications

- GUI front-end runs on Windows NT/2000/XP or Windows 9x/Me
- Capture agents run on Windows, Solaris, AIX, HP-UX, Tru64 Unix and RedHat Linux
- Supports Sybase ASE 11.x - 12.5 and higher

Workstation Requirements

- Windows XP/2000/NT 4.0 or Windows 95/98/Me
- Pentium 200 or faster CPU recommended
- 128MB or more RAM
- 100MB or more available disk space
- 1024x768 or better display
- Sybase client software installed
- Microsoft TCP/IP installed

Database Server Platforms Supported

SQL Query Analyzer can capture SQL from any Sybase ASE platform.

All Sybase versions 11.0.3 through 12.5 are supported.

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